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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/642,883	08/22/2000	Masato Koike	001035	8966

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 03/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/642,883

Applicant(s)

KOIKE ET AL.

Examiner

Audrey Y. Chang

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 28 January 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Remark

- This Office Action is in response to applicant's amendment filed on January 28, 2002, which has been entered as paper number 9,
- By this amendment, the applicant has amended claims 1, 6 and 11.
- Claims 1-15 remain pending in this application.
- The rejections claims 1-5, 6-10 and 11-15 under 35 USC 112, second paragraph, set forth in the previous Office Action dated September 26, 2001 **still hold**.

Response to Amendment

1. The amendment filed on January 28, 2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: claims 1, 6 and 11 have been amended to include the term "Ø" that is not supported by the specification. The specification has used the symbol ϕ to designate "rotational position" but does not disclose "Ø" to denote "rotational position" or anything.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. Claims 1-5 and 6-10 and 11-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The reasons for rejection based on the newly added matter are set forth in the paragraph above.

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-5, 6-10 and 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The reasons for rejection are set forth in the previous Office Action dated September 26, 2001.

The term "rotational position" is indefinite and confusing as stated in the previous Office Action.

The applicant is respectfully reminded that the **proper term** for denoting the angular position ϕ of a point on the plane surface with respect to a rotational axis perpendicular to the plane surface is **azimuthal angle**.

The rotational position " ϕ " recited in the various claims is indefinite since it is not clear how does it relate to the rotational position " ϕ " recited the their respective based claim.

The term "plane diffraction *rating*" recited in claim 1 is **wrong**.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by the patent issued to Hasegawa et al.**

The reasons for rejection are set forth in the previous Office Action dated September 26, 2001.

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Hasegawa et al in view of the patent issued to Ohkura et al.**

The reasons for rejection are set forth in the previous Office Action dated September 26, 2001.

Response to Arguments

9. Applicant's arguments filed on January 28, 2001 have been fully considered but they are not persuasive. The amended features in the claims have been fully considered and they are rejected for the reasons stated above.

10. Applicant is respectfully advised that if the angular position ϕ recited in the claims and specification is referred to “**azimuthal angle (or direction)**” then such term should be used to avoid the confusion.

11. In response to applicant's argument concerning the term “an original line” the applicant is respectfully reminded that a line is defined by at least two points in this case no points are cited to define the “original line”. Applicant is also respectfully reminded since the claims and specification fail to define what is considered here as ϕ , $\phi = 0$ will not be defined here either. The applicant is respectfully referred to a mathematical textbook to find out the **conventional** notations for denoting a **rotational coordinate system** to avoid the confusions.

12. In response to applicant's arguments concerning the difference in wavelength, the applicant has the **obligation** to clearly explain such. Since this specification and the claims fail to disclose how do

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different wavelengths come from and what are the different wavelengths referred to the scopes of the claims are therefore not well defined.

13. In response to applicant's arguments concerning the cited Hasegawa reference, the applicant is respectfully advised to study the Figures 73(b), 76 and 78 more closely. The grating lines shown in the figures are the hologram fringes patterns that implicitly have grooves structure. The angle θ is the azimuthal angle, which is the same as ϕ in this application. Hasegawa et al teaches that the fringes patterns are a function of the angle θ , whether if it is a constant function of angle θ (Figures 73(b) and 76) or a non-constant function of angle θ (Figure 78). The manner of using the rotational hologram is not a limitation recited in the claims it therefore is not a relevant issue to overcome the rejection here.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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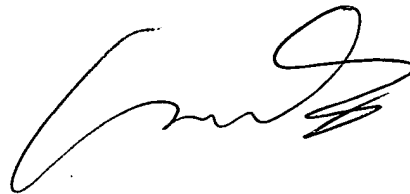
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

*Audrey Y. Chang
Primary Examiner
Art Unit 2872*

A. Chang, Ph.D.
March 27, 2002

A handwritten signature in black ink, appearing to read 'Audrey Y. Chang', with a stylized, flowing script.